Foreign Exchange, Prices and the Course of International Trade

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FROM July 1, 1914, to December 31, 1918, the United States exported $22,974,000,000 of merchandise (and silver) and imported $11,166,000,000, giving an excess of exports amounting to the sum of $11,808,000,000, an average of $2,624,000,000 a year. This huge balance, in four and a half years of war, is equal to the sum of our annual trade balances from 1873 to 1914.[1] Our enormous exports were due to two interrelated causes, the war demands of Europe[2] and the great rise of export prices.[3] After the armistice, our excess of exports continued without abatement, despite the unpegging of the exchanges in the spring of 1919 and their subsequent pronounced depreciation. The calendar year 1919 showed exports of $7,922,150,000 as against $6,143,392,000[4] in 1918, and imports of $3,904,-

[1] Excess of exports, 1873–1914, $11,754,849,000.

[2] During the fiscal years, 1914–19, Europe took of our total exports the following percentages, 63, 71, 69, 69, 63 and 64. Of these exports to Europe the following percentages were taken by our four principal Allies—the United Kingdom, France, Italy, and Belgium: 60, 75, 82, 79, 93, and 85. During the same period the United Kingdom alone took from 40 per cent to 53 per cent of the total exports to Europe. The following figures show our trade balances with our principal Allies in recent years, as compared with 1913, the first full year before the war. The figures are for calendar years.

EUROPE

	1919	*1918*	*1913*
Exports.....	$5,185,980	$3,858,705	$1,499,572
Imports.....	750,569	318,127	864,986
Excess of exports	$4,435,410	$3,240,578	$634,586

UNITED KINGDOM

Exports.....	$2,279,178	$2,061,300	$590,732
Imports.....	309,189	148,614	271,954
Excess of exports	$1,969,988	$1,912,686	$318,778

FRANCE

Exports.....	$893,368	$931,199	$153,922
Imports.....	123,871	59,509	138,933
Excess of exports	$769,497	$871,690	$14,989

ITALY

Exports.....	$442,676	$492,145	$78,675
Imports.....	59,048	24,340	55,322
Excess of exports	$383,626	$467,805	$23,353

[3] The following comparison of indices of export prices for 100 articles, quantity and total value of domestic exports, shows that the increase in our exports was much more an increase in values than in quantities:

INDEX NUMBERS

	Quantity of Domestic Exports	Export Prices of 100 Articles	Value of Domestic Exports
1915.....	122	101	123
1916.....	157	122	191
1917.....	171	163	279
1918.....	125	210	261
1919.....	140	227	317

(See W. A. Berridge, Analysis of the Merchandise Exports from the United States, *Review of Economic Statistics*, October, 1919, p. 312.)

[4] This figure does not include exports on government account to the American Expeditionary Force.

406,000 as against $3,031,304,000 in 1918, giving a favorable trade balance of $4,017,744,000, the largest in the history of the United States. Prior to the entrance of the United States into the war, and before the imposition of the European gold embargoes and the various arrangements for exchange stabilization,[5] these enormous merchandise balances induced an unprecedented drainage of gold from Europe to the United States, the net excess of our gold imports to December 31, 1918, being $1,029,000,000. Concurrently with the diminution of gold holdings[6] in the European belligerent countries went an astonishing increase in their paper money in the shape of inconvertible notes. The increase (inclusive of Russia) has been about twenty-fold.

In consequence of these abnormal conditions—our huge trade balances, the drain of gold from Europe, the gold embargoes, the large issues of paper—Europe[7] was for the greater part of the war, and still is, off the gold standard, and we have in the European exchanges a condition of "dislocated exchange."

This situation brings up for renewed discussion a fairly familiar problem, which has been considerably talked about of late, but of which there has been comparatively little study of a statistical character—the problem of international trade under a régime of depreciated inconvertible paper money. How, under conditions of inconvertible paper money, do changes take place in exports and imports? The answer to this question involves a consideration of the relation between the foreign exchanges, prices and the course of international trade.

INTERNATIONAL TRADE AND MONETARY SYSTEMS

Gold Standard Countries

We may best state the problem by first reviewing, briefly, the normal case for gold standard countries. Summed up baldly, the bases of the usual statement of the theory of international trade and foreign exchange are as follows:

1. The trading countries are on a gold basis.

[5] Of the arrangements for exchange stabilization, the mobilization of American securities in Europe for that purpose, the series of private loans directed to the same end (of which the Anglo-French loan is the most familiar) and the subsequent direct advances by our government to the Allied governments, it is unnecessary to speak in detail in the present article.

For a detailed statement of our war-time balance of international payments, inclusive of the" invisible" items, see my article on "The Balance of Trade of the United States," *Review of Economic Statistics*, July, 1919 (co-author with C. J. Bullock and R. S. Tucker).

For an analysis of our war-time trade and exchange relations with Latin American countries, see my article on "Latin American Foreign Exchange and International Balances During the War," *Quarterly Journal of Economics*, May, 1919, pp. 422–65.

For an analysis of our balance of international payments in the calendar year 1919, see my article on "The Future of Our Foreign Trade: A Study of Our International Balance in 1919," *Review of Economic Statistics*, April, 1920 (co-author with Frank A. Vanderlip).

[6] Curiously enough, however, in spite of the heavy depletion of the total gold stocks in the European belligerent countries, the gold reserves held by their banks actually increased by about one-third during the war—from $4,660,000,000 to $6,245,000,000—owing to the concentration in these banks of gold formerly in circulation, etc. (See the *Financial and Commercial Review of the Swiss Bank Corporation* for 1918.)

[7] Except in the neutral countries.

2. Through the mechanism of the "gold points," gold flows freely between the trading countries.

3. When gold flows out of a country the level of prices within that country falls and, in consequence, exports increase and imports diminish; and conversely, when gold flows in, the price level rises, so that imports are encouraged and exports discouraged.

Given this mechanism, a disturbance of the balance of international payments, as for example, an increase in borrowings, will set the machinery in motion and effect a change in the merchandise imports and exports.

For example, let us imagine an interesting, though of course impossible case. Abstracting from other factors, let us imagine what would have happened, according to theory, had Europe remained through the war on a gold basis. Our large favorable balance of payments, in which the heavy merchandise exports were, as said, the dominant item, would have turned the exchanges against the European belligerents. The excessive supply of bills in New York, representing the exports, would have driven sterling, for example, to a discount—to say 4.83. It being cheaper, at that rate, to ship gold and bear transportation, interest, and insurance expense thereon than to sell sterling bills at the discount, gold would have flowed from England to the United States, prices would have fallen in Great Britain and risen in the United States. Under these changed price conditions England could export more than before and the United States less.

Only to state the case shows how impossible it is, and illustrates how little application a theory of normal trade has to such abnormal conditions as those which obtained in the late war. Europe *had* to continue to buy from us. The drain of gold, far from lowering the European price levels, was accompanied by rapidly rising prices. Then came the cessation of gold exports from Europe, the abandonment of the gold standard and a still further elevation of prices—this time of *paper* prices. Throughout, our heavy exports continued, despite rapidly rising prices here, and despite the depreciation of exchange—exports for which Europe could not pay, except with credits out of the pockets of the United States to the sum of about $10,000,000,000.

Even today, the situation is but little changed, though of late months our exports show some indications of falling off, and European exports, at least those of Great Britain, show most hopeful signs of recovery. Eventually, however, the trade balances will be righted. This has been so freely, and for so long, predicted as scarcely to require detailed exposition. It is not to be expected, however, that, except perhaps in the case of Great Britain, there will be a return to the gold standard in the immediate future. How, then, are these trade changes to take place?

German Reparation Payments

We have to ask ourselves the same question with regard to the German reparation payments and their effects upon international trade. Germany is to make payments which will amount, when fully assumed in 1926, to about $750,000,000 a year. Such large remittances will undoubtedly dominate the German balance of

payments and result in a great expansion of German merchandise export and a large excess of exports over imports. In other words, Germany will make the reparation payments with the only means at her command—with goods. But Germany is suffering a régime of depreciated paper. With some 50,000,000,000 marks of paper notes in circulation and the mark exchange at about one cent, it is not to be expected that Germany will resume the gold standard for at least a considerable period.

Effects of Exchange Depreciation

How, then, in all these cases, with the usual gold points of exchange, gold movements, and the consequent changes in price levels which in the theory for gold countries bring about trade changes, are these large changes in exports and imports to come about? The answer to this question has usually been that depreciating exchange operates as a "bounty" to exporters (of the country whose exchange is depreciated) and as an added burden upon importers. The question as to just what constitutes this bounty and this burden has presented great difficulty, and has called forth various solutions. The exporter, it is said, receives payment in the form of a foreign bill calling for foreign gold money. Let us say he is a German exporter to the United States. He receives for his goods a bill in dollars. This bill he sells for marks. With marks at one cent he gets 100 marks per dollar, instead of about 4 marks, as when the mark was at par.

This answer is, of course, the superficial one. It implies that the goods to be exported cost nothing in Germany, or at least no more than before. The explanation of the theorist, therefore, has usually been somewhat different. His explanation has usually been that when a country's exchange is depreciating, the depreciation of the exchange keeps pace with the depreciation of the paper currency in terms of gold, that is, with the gold premium, but that a gap appears between these two and the general price level. General prices do not rise so fast as the gold premium or rate of depreciation of exchange, so that the exporter buys in Germany at the general price level and sells to us in dollars, converts his dollars into marks, and secures an extra profit or bounty, measured by the gap between the general price level and the rise of the gold premium, or extent of depreciation of the mark in exchange.

International Price Levels

General Price Levels and Depreciating Currency.—But this answer still presents difficulties. With expanding exports and increased supplies of exportable products being sought for export, do the prices of exportable products remain only on a par with the "general price level?" The "general price level" is made up of numerous items. It contains both export prices and domestic prices. What would interest the exporter, in this comparison as stated would be not the "general price level," but export prices. How do these compare with the gold premium and the exchange rate? Taking account of this distinction, a refinement of the original statement has been put forth, namely, that while export prices do tend, under conditions of depreciating paper, to rise higher

than the "general price level," they do not rise so high as the premium on gold (depreciation of exchange), so that there still remains a "gap"—this time between the prices which the exporter pays for his goods and the value in marks of his bill of exchange in dollars. This "gap" constitutes an extra profit or bounty to the exporter.

These are representative views of those who hold that depreciating paper currency stimulates exports and discourages imports. On the other hand, there are some who have contended that depreciating paper has no such effect. To cite one distinguished example, J. M. Keynes, as a result of his investigation in India, denied that depreciation of the Indian exchanges operated as a bounty to exports.

General Versus Specific Depreciation.—Professor J. Shield Nicholson, the British economist, endeavors to reconcile these conflicting opinions, and ascribes the difference of views to the failure to distinguish between what he terms *general* depreciation and *specific* depreciation. To quote from his recent book *Inflation*:[8]

> The general rise of prices in this country (England) is the same thing as a general depreciation of the pound sterling. . . .
>
> Under normal conditions of trade, the general levels of prices in the different countries, that are effectively on the gold standard, tend to conform to the general world level of prices. There are, of course, differences owing to cost of transport, tariffs and the like, but there is a general conformity.
>
> If in any one country prices were to rise to an exceptional degree, that would amount to a general depreciation of its currency compared with gold—the standard of world prices. Imports into this high-priced country would increase, exports would fall off and there would emerge an adverse balance of trade. This adverse balance might be met for the time by the export of gold or of securities, or by borrowing abroad, or by deferred payment, etc., but if the cause persisted, if the price level of the country in question remained relatively high, then its currency would fall below the par level with other currencies. That is to say, the *general* depreciation would be followed by or associated with a *specific* depreciation. The specific depreciation is measured by the fall in the foreign exchanges.

It is Nicholson's view that this difference between the *general* depreciation and the *specific* depreciation would operate as a stimulus to exports and a discouragement of imports.[9]

World Price Level.—Upon Nicholson's statement of the matter two comments may be made. In the first place, his phrase "the general world level of prices," and his characterization of the "general levels of prices in the different countries" as tending "to conform to the general world level," barring such minor differences as cost of transport and the like, appear to me unhappy for his purpose, because capable of an interpretation which he perhaps did not intend. It is true that there is a world level of prices in the sense that at any given time the price levels in different countries stand in a certain relation to each other, and that, given the free flow of gold, the stocks of gold coming annually from the mines tend, theoretically, to distribute themselves among the countries of the world in accordance with the shiftings of their balances of international payments and with the play of reciprocal demand. The phrase "world level of prices," however, con-

[8] London, 1919, pp. 69–71.

[9] For his fullest and clearest statement on this point see *The Economic Journal*, December, 1916, pp. 429–30.

notes, for me at least, a tendency of national price levels to conform to an equality, a connotation which unhappily is strengthened by Professor Nicholson's allusion to the minor differences due to the cost of transport, tariffs and the like. It is a commonplace observation that before the war, to take a normal case, the price levels of different countries were widely divergent, and that they had been so for generations. The price level in the United States was higher than that of England, that of England higher than that of Germany and that of Germany higher than that of Italy. These differences were not of so slight a character as to be ascribable merely to differences in cost of transport. They came about, moreover, by reason of that same free flow of gold, and in response to those same shiftings of international balances and the play of reciprocal demand which have been mentioned as governing international price levels.

Factors Governing International Price Levels.—The reason for these enduring differences may be easily illustrated. Suppose that there *were* a general world level of prices, and a general balance in the trade between nations, so that in every country exports exactly paid for imports.[10] Suppose, then, an increase of demand in England for United States tin plate. The trade having previously balanced, this additional export would be paid for by a flow of gold to the United States. The added gold would raise our price level and lower that of England. In consequence, there would be a gradual stimulation of imports from England (the lower-priced country) to the United States (the higher-priced country), and a gradual check of exports from the United States to England (other than the new article) until the trade between them again came to an equality. Then the flow of gold would cease. But there would no longer be a general world level of prices. England, by the loss of gold, consequent upon the new demand for tin plate, would have a permanently lower price level, the United States a permanently higher price level than before. An obligation to make other payments than those for merchandise would have similar results. If a country has to make remittances abroad—for tourists' expenditures, immigrants' remittances, interest on foreign capital previously invested—it must make the remittance—its international payments having previously balanced—in money. The flow of gold leads to a flow of goods, so that the payments are made ultimately by an increase of exports and a diminution of imports. But the process which brings about these changes in trade is one of lowering prices and incomes in the remitting country and of raising them in the creditor country.

Prices: Domestic and International.—Before leaving this matter of general world price level and national price levels, it should be said that here, as in the discussion of a paper money régime above it is necessary to distinguish between the two sets of prices that enter into the general price levels of nations—between the prices of

[10] For purposes of exposition, I abstract from other, "invisible," items in the balance of payments, supposing trade to consist solely of merchandise. I abstract, too, from the various banking devices to limit gold flow to a minimum, the object of the illustration being to state a fundamental principle in the simplest terms.

domestic goods and the prices of international goods. As we shall presently see, regarding the staple products that enter into general world trade, it is indeed true that they tend to conform to a general world market price. Wheat of the same grade, for example, sells at approximately the same price in Liverpool, whether it be exported from Argentina, the United States, or Russia. These form only a minor part of the general price level, however, and do not destroy the force of the general statement that there are wide and enduring differences in national price levels.

Causes for Trade Changes.—It will be observed, by reference to the quotation from Professor Nicholson's book, that the foregoing discussion of price levels is based on the assumption that the trading countries are on the gold standard. The rise of prices in a country, such as would induce normally an increase of imports and lead to an outflow of gold or securities, is what Nicholson calls *general* depreciation. But if the cause persisted—if the price level remained relatively high, and the deficit in the balance of payments and the drain of gold continued, there would come finally a breakdown of the gold exchange mechanism. The depreciation of exchange, instead of being confined within the narrow limits of the gold points, would become more violent, and the currency of the country "would fall below the par level with other countries." "That is to say, the *general* depreciation would be followed by or associated with a *specific* depreciation. The *specific* depreciation is measured by the fall in the foreign exchanges."

It is the difference, the "gap," as we have called it, between the *general* depreciation and the *specific* depreciation, which serves as an extra profit or "bounty" to exporters and an added burden upon importers, and thus brings about an increase of exports and a decline of imports. Without stopping to examine the aptness of Nicholson's distinction between *general* and *specific* depreciation, his explanation of trade changes under a régime of depreciated paper is clear. Translated into the terms we have previously used, it is that under depreciating paper currency, the depreciation of exchange (rise of premium on gold) outstrips the rise of the general price level. The "gap," therefore, is the same one which has been set forth by other theorists. It does not even contain the refinement upon this general view that we have mentioned, namely, the distinction between the prices of domestic goods and the prices of international goods, and the comparison of the depreciation of exchange with these latter, instead of with the general level of prices.

GOSCHEN'S THEORY OF FOREIGN EXCHANGE

Over-importation.—Before stating our own view of the problem, we may be permitted to make one further reference to the writings on the subject, namely, to Goschen's analysis.[11] Goschen sets forth as a characteristic phenomenon the case of over-importation associated with excessive issues of paper money and depreciation of foreign exchange. He finds among these phenomena a causal connection which he states as follows:

[11] Goschen, G. J., *The Theory of the Foreign Exchanges*, 1901 edition.

> Probably there are as many cases in which the depreciation of the currency is directly or indirectly the consequence of excessive importations as there are cases in which it is due solely to the errors and bankruptcy of governments. Often both influences are combined, taking alternately the position of cause and effect. Sometimes governments, simply for their own purposes, issue a quantity of paper money; the natural consequence will be over-importation; prices will rise in consequence of the increase in the circulation and accordingly attract commodities from other markets, while the exports having risen also in price will be less easy of sale abroad. Or, over-importation takes place in the first instance, and governments, in order to remedy artificially and apparently what can only be remedied by the cessation of the real primary cause, commit the fatal error of increasing the circulation by an issue of paper money. They think thus to increase the means of paying the debts that are being incurred; but the only effect is still further to increase the evil, *for importation instead of being checked is fostered by such a plan.*[12] Italics mine.

Goschen's analysis is endorsed by Nicholson, who says that it "exactly describes our present case." After saying that Great Britain is suffering from over-importation, and admitting that "the imports from America were necessary for the conduct of the war," he adds: "But an increasing part of the aggregate money value of these imports was due to the inflation of the currency and the associated rise in prices."[13]

Difficulties of Nicholson's and Goschen's Theory of Exchange Rates

To the writer, these passages are of especial interest as showing the failure to distinguish consistently between the theory of international trade applicable to gold countries, and the theory which is applicable under conditions of depreciated paper. The crux of these passages is the declaration that rising prices encourage imports and discourage exports. But this is the orthodox explanation for gold standard countries, whereas both Goschen and Nicholson are applying it to countries with inconvertible paper currency and depreciated exchange. Moreover, this explanation runs directly counter to Nicholson's own earlier view that "specific" depreciation (the condition of depreciating currency and exchange) stimulates exports and discourages imports. In the case of both writers, the confusion is apparently due to the fact that they have witnessed the concurrence of the phenomena to which they ascribe a causal relation—namely, the concurrence of heavy importation, depreciating paper currency and exchange, and a rising price level. But this association, when it has occurred, has been *in spite of*, and not because of depreciating paper and the consequent rise of prices. Few would agree with Nicholson, for example, that during the war the heavy importations of Europe were induced and encouraged by the rising paper price levels and the depreciating foreign exchanges. These importations occurred in spite of the unfavorable exchanges, and in spite, too, of the fact that Europe was unable to make payment, except in credits advanced by the United States. They are sufficiently explained by the necessities of war and of reconstruction. In proof, we have the decline of European imports in recent months, a decline which is quite generally associated with the fall in the European exchanges which became so pronounced last January.

Goschen's analysis, of course, is not concerned with war conditions, yet the

[12] Goschen: *The Theory of the Foreign Exchanges* (Ed. 1901), p. 73.

[13] Nicholson, *Inflation*, p. 74.

criticism to be made of it is essentially the same. The concurrence which he noted between expanding imports and depreciating paper is to be explained as taking place not because of the rising price level, but in spite of it, and from a quite different cause. A paper money régime is frequently accompanied by a wave of foreign capital borrowings. Under the stimulus of rising prices there is likely to develop a fever of land speculation, railroad building, or some other avenue of speculative expansion by which foreigners are tempted to make investments of their capital. In a sense, the whole situation resolves itself into a borrowing program, for the issues of inconvertible paper are themselves in the nature of a forced internal loan. The point here to be made is that a considerable portion of these foreign borrowings are expended *directly* and immediately in the lending country, and are not remitted by bill of exchange to the borrowers. Such was the case, for example, with Argentine borrowings for railroad purposes in the years preceding the Baring Panic. A great part of the loans was spent for railroad construction materials in England, the same country in which the loans were made. The result, of course, was an expansion of Argentine imports. But this expansion had no direct connection with that series of consequences—exchange rates, prices, value of money—which we are considering; for, as has been said, these imports did not give rise to exchange transactions at all. My analysis of Argentine imports[14] in this period shows that, aside from these imports of construction goods, general imports did move in accordance with the theoretical expectation. They diminished with the progressive elevation of the premium on gold. And when in 1890 the flow of borrowings ceased, the gold premium meantime rising to 151[15] and finally (in 1891) to 364, the decline of imports was startling indeed. Imports declined 14 per cent in 1890, and another 53 per cent in 1891. Throughout the subsequent years of the paper money period, moreover, the fluctuations of the import trade show a precisely inverse relation to the fluctuations of the premium on gold.

[14] Williams, John H., *Argentine International Trade under Inconvertible Paper Money*, Harvard University Press, 1920, Chapter XVI.

TRADE CHANGES UNDER CONDITIONS OF DEPRECIATED PAPER

We may proceed, then, to the statement of how trade changes occur under conditions of depreciated paper. The general explanation, as we have seen, is to be found in the causal relation between depreciating paper currency, exchange rates and prices, which is of such a sort that when paper is depreciating exports are stimulated and imports discouraged. The particular point at issue is as to the precise nature and workings of this interrelation. It is unnecessary to summarize further the various views that have been taken.

The Case of Argentina

The present writer recently spent about a year in Argentina upon an investigation of Argentine international trade under the régime of inconvertible paper money that existed prior to the passage of the Conversion Law of 1899, which placed Argentina upon the gold standard. It is interesting, there-

[15] Average for 1890.

fore, to point out one or two important differences between the paper money mechanism, as it was found to have operated there upon international trade and the foregoing exposition of its workings.[16]

The investigation indicates that both of the general conclusions which appear in the theories which we have reviewed require qualification:

(1) That there is a necessary correspondence between the gold premium and the rate of exchange;

(2) That there is a "gap" between the gold premium (or rate of exchange) and the general price level, or, more carefully stated, between the gold premium and the price of international goods, and that it is this "gap" which operates as an extra profit or "bounty" to the exporter and as an added burden upon importers.

The correspondence between the exchange rate and the gold premium depends entirely upon whether the exchange mechanism in the depreciated paper money country is a gold exchange or a paper exchange. If the exchange mechanism is a paper exchange, the rate of exchange is itself the measure of the premium on gold, for under such a system bills of exchange, giving title to foreign gold money, are bought and sold directly in terms of the domestic paper currency. That such a paper exchange mechanism does not *necessarily* accompany a régime of depreciated paper currency, however, is proved by the experiences of Argentina. There, throughout the period of inconvertible paper money, 1884–99, a gold exchange was consistently maintained. Persons having foreign dealings kept a gold account, as well as a paper account, with their bankers, and purchased exchange with gold, which they in turn purchased with paper pesos in the open market, gold balances being settled biweekly at the Stock Exchange. Under such a system there are gold points and gold movements to and from the paper money country, which operate in precisely the same way, and from the same causes, as in any gold standard country. The Argentine par of sterling exchange is 47.58 d. Except for a few months in 1884, when specie payments were first suspended, exchange rarely fell below 46 during the whole period of inconvertible paper, notwithstanding the fact that the paper currency depreciated violently, reaching its climax in a gold premium of 364 in October, 1891. The total gold exports for the fifteen years, 1884–1899, were $90,000,000, and the gold imports, $158,000,000. In 1888 the net gold imports reached the astonishing total of $45,000,000, and in 1889 the movement was the other way, the net exports being $12,000,000.

The size of these gold movements, and more particularly their dates, prove conclusively that they are not to be explained away as representing gold to be used in the arts, or for contracts stipulated as payable in gold coin. In 1888 the fever of borrowing of foreign capital for railroad building and land speculating, which ended in the Baring Panic of 1890, reached its height. Argentina, though then a country of but 4,000,000 inhabitants, borrowed, in 1888, $250,000,000 of foreign capital. The result was a large favorable balance of payments, a rise

[16] John H. Williams, *Argentine International Trade under Inconvertible Paper Money*, Harvard University Press, 1920, Chapters II and XI.

of exchange to the gold import point, and a heavy inflow of gold. In 1889 borrowings ebbed, Argentina began to feel the burden of the large interest payments due on foreign capital previously borrowed, exchange fell, and gold flowed out. These gold movements were of precisely the same sort, and occurred in response to precisely the same exchange mechanism, as in any gold standard country. And this happened, notwithstanding the fact that the average premium on gold was for the whole period well above 125, and for the first five years of the '90's was well over 200.

It may be admitted that, as regards the exchange mechanism, the Argentine case is rather the exception than the rule; and that usually depreciation of inconvertible paper currency shows itself in a correspondent depreciation of exchange, and the destruction of the gold points. That is, of course, the case with the exchanges of the European belligerent countries at present. It is by virtue of this peculiarity, however, that the Argentine case is worthy of especial examination; for it points to the conclusion that the correspondence between the premium on gold and the depreciation of exchange, and the consequent gap between these two and the general price level, is not the essential feature of the explanation of trade changes in countries on a basis of inconvertible paper money. The significant fact is that whatever be the exchange mechanism, whether a paper exchange or a gold exchange, gold cannot enter into the monetary circulation of the depreciated paper country, but stands always at a premium, whenever and so long as no provision is made for the free conversion of gold into paper and paper into gold at a fixed rate. Since gold cannot enter into circulation, or serve as a basis for circulation of convertible forms of credit, it cannot bring about those changes in price levels which, in the theory for gold countries, effect changes in exports and imports.

Price Changes in Depreciated Paper Countries

In fact, precisely the *opposite* price changes would occur. In a gold standard country, an increase of remittances to the outside world—such as an increase of interest payments on securities held abroad, or an increase of tourists' expenditures, or of immigrants' remittances—would, if sufficiently heavy, drive up exchange to the gold export point, induce an outflow of gold, and thus *lower* prices. In a depreciated paper country, such an increase of remittances, by requiring more of the domestic paper to be given for the title to gold (whether the purchase be that of a bill of exchange, as in the more usual case, or of gold coin wherewith to purchase exchange, as was the case in Argentina), would lower the value of the domestic paper currency and thus *raise* prices. In the case of a depreciating paper country, which still maintained the gold exchange mechanism and permitted the free movement of gold, the rise of prices would take place as the result of an outflow of gold, which, by lessening the supply of gold in the home market, would occasion a rise of the premium on gold, or, in other words, cause still further depreciation of paper. In the case of a depreciated paper country which had not maintained a gold exchange, but which had been drained of gold or had imposed an embargo on its

export, the same result would ensue, though by a different process. Without any flow of gold, paper would depreciate below its previous value because of the increased demand for exchange occasioned by the heavy foreign remittances to be made, and the consequent rise in the paper price of exchange (the title to foreign gold). This would be the first effect in Germany, for example of such a heavy demand for exchange as that which would be caused by the payment of $750,000,000 a year of indemnity.

We find, then, in depreciated paper countries, just the opposite price changes from those which would occur, under similar circumstances, in gold countries. And yet, these opposite price changes bring about precisely the *same* trade changes. An increase of remittances would, in a gold country, lower the price level, stimulate exports and discourage imports. Similarly, in depreciated paper countries, an increase of foreign remittances, though *raising* prices, would result in an increase of exports and a decrease of imports.

That such is the fact is indicated by numerous instances. The heavy Argentine borrowings of the '80's, to which reference has been made, caused an expansion of imports. But in 1890 when borrowings had ceased, the large interest payments (about $60,000,000 a year) on the previous accumulation of foreign capital, created an unfavorable balance of payments, and resulted in an excess of exports over imports. Precisely analogous was the overturn in our own trade balance in 1873. Today, British exports are expanding for a similar reason. Likewise, in the future the annual reparation remittances from Germany may be expected to result in a large expansion of the German export trade, and to bring about an excess of German exports over imports sufficient to cover the annual remittances.[17]

How Trade Changes are Brought About

All these are cases in which trade changes similar to those that would occur in gold countries are effected under a régime of depreciating paper, and in spite of the difference in the direction of the accompanying price changes. How, then, are these trade changes brought about? The Argentine investigation points to the following explanation. It finds the stimulus to exports, and the discouragement of imports, in the different effects of a rising gold premium (or a depreciating exchange) on different sets of prices, all of which form a part of the general price level. Stated more definitely, exports are stimulated because of the different effects of depreciating paper money on the selling prices of exports and their cost of production.

International Prices.—Except in rare instances, where a nation produces so great a part of the world supply of a product as to dominate the world market (as in the case of our own cotton, or of Brazilian coffee), one nation cannot ordinarily determine international

[17] That is, such part of them as may not be covered by other German "invisible" credit items. See John H. Williams, *The German Reparation Payments*—Discussion—*American Economic Review*, Supplement, March, 1920.

The most illuminating discussion of the effects upon international trade of the German reparation payments which I have seen is that of Professor F. W. Taussig. See his articles in the *American Economic Review* Supplement, March, 1920, and *The Atlantic Monthly*, March, 1920.

prices. It can only accept the international price, and determine the amount of product it will export at that given price. An exporter in the depreciated paper country, therefore, in buying goods for foreign consumption, would base his price on the international *gold* price of the commodity, the cost of freight to the foreign country, and the premium on gold. In other words, given the foreign gold price, minus cost of transportation to the foreign market, he would convert his price into the domestic paper currency at the current rate of exchange. Given free competition, his export price thus becomes a paper money reflection of the international gold price. Abstracting from fluctuations in the foreign gold price, it is thus apparent that the rise of export prices would keep pace exactly with the rise in the premium on gold, and, in fact, be identical with it. My study of Argentine export prices for the fifteen years, 1884–99, shows this correspondence with the fluctuations of the gold premium to a striking degree. On the other hand, it shows that wages, rents, and other costs of production do not rise so rapidly as export prices. It is *this* gap between export prices and exporters' costs of production, and not, as has been stated, a gap between the rate of exchange (that is, the gold premium) and the general price level, or between the rate of exchange and the price of international goods, which gives an extra profit, or "bounty," to the exporter, and thus causes exports to expand.

The Present World Situation

There remains to be considered the applicability of these conclusions to the present and future international situation. These conclusions are concerned with a set of monetary and trade conditions which constitute but one aspect of an abnormal world situation in which there is a complexity of currents and counter-currents. Moreover, they deal merely with one set of forces which are operating upon trade, money and prices. How far the particular set of forces we have examined will be permitted to work out their effects upon international trade, it is impossible to predict. That they will play some part, and that, on the other hand, they will be in some measure overlaid and obstructed by more powerful forces working at cross purposes, seem alike obvious.

The change that has occurred in the international position of the United States, for example, the violently rapid shift from the debtor to the creditor position, would point, in the strict theory of the case, to further inflow of gold and rising prices. But the nations which have remittances to make are unable to remit gold, and, on the contrary, gold is being drawn from the United States by those neutral countries in which, during the war, the dollar was at a discount, the net resultant being a considerable net outflow of gold.

European Specie Payment Resumption

A factor to be reckoned with in endeavoring to ascertain the probable course of international trade in the next few years is, of course, the possibility of resumption of specie payment in the European countries. Resumption is, I believe, certain; and in the case of certain countries, particularly Great Britain, it may come sooner than is apparent upon the surface of events.

Were the gold standard resumed, the theoretical expectation would be a flow of gold from the countries owing heavy obligations to the United States, falling prices there, rising prices here, increasing exports there, decreasing exports here, with contrary shiftings in imports. But general resumption of specie payments on the basis of the present gold holdings of Europe appears improbable; and the further inflow of gold to the United States would imply still further depletion of European gold stocks.

International Position of the United States

We have, besides, the over-extended condition of internal credit in all countries, a range of price levels admittedly abnormal and temporary. Some deflation, at home and abroad, is the general expectation. A reasonably safe statement would be that, granting the certainty of the deflation process throughout the world, our new international position is such as to require a price level sufficiently above that of European countries, once they are on the gold standard, to induce a flow of their exports, wherewith to make remittances due to us, and a decline of our exports to them. This seems a necessary ultimate condition, if our trade balance is to show that excess of imports which is the logical eventual outcome of the war-time changes in our balance of international payments.

In the immediate present at least, however, we are faced with a general condition of depreciated paper currency in the European countries; and, in certain cases, that condition is likely to be of considerable duration—in Russia and in Germany, for example. We may, therefore, ask ourselves how the particular set of factors we have examined are likely to manifest themselves in these instances. Evidence that depreciating paper stimulates exports from the country whose currency is falling in value and discourages imports, was, of course, afforded by the increase of British exports and the decline of our own exports which accompanied the pronounced fall of sterling this past winter. How far, in the case of other countries, the working out of the full effect was impeded by the continued operation of that fundamental condition which has dominated world trade since 1914—the imperative necessities of war and reconstruction, as shown in the persistent demand for our products and the temporary inability of the war-exhausted countries to react to special stimuli to exports, however powerful—it is impossible to estimate.

Reparation Payments of Germany

In the future, the most interesting case in prospect is that of Germany and the reparation payments; and since the full amount of the annual payments, $750,000,000, is not to be assumed until 1926, we may expect that the general state of world trade will have settled down sufficiently to afford to the economist an opportunity for additional verification of the principles of international trade and foreign exchange under conditions of inconvertible paper money.